



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,684	01/22/2002	Francis James Canova JR.	035451-0132 (3645.Palm)	5151
26371	7590	03/18/2009	EXAMINER	
FOLEY & LARDNER LLP			SHENG, TOM V	
777 EAST WISCONSIN AVENUE			ART UNIT	PAPER NUMBER
MILWAUKEE, WI 53202-5306			2629	

  

MAIL DATE	DELIVERY MODE
03/18/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte FRANCIS JAMES CANOVA, JR.*

---

Appeal 2007-4293  
Application 10/054,684  
Technology Center 2600

---

Decided<sup>1</sup>: March 18, 2009

---

Before MAHSHID D. SAADAT, CARLA M. KRIVAK,  
and KARL D. EASTHOM, *Administrative Patent Judges*.

SAADAT, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from a Final Rejection of claims 1-22, which constitute all of the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

---

<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

## STATEMENT OF THE CASE

Appellant's invention relates to a handheld computer system including a switch, a user interface, a housing, and a display. The user interface includes a text entry area that is activated in response to the manipulation of a switch, the switch being a non-display element (Spec. ¶ [0006]). Claim 1, which is representative of the claims on appeal, reads as follows:

1. A handheld computer system, comprising:

a pressure sensitive switch;

a user interface;

a housing having a deformable side, the housing being sized to be held in one hand, a pressure sensitive switch coupled to the deformable side of the housing such that when the housing is squeezed by the one hand, the deformable side is deformed and the switch is toggled; and

a display supported by the housing, wherein the user interface includes a text information entry area, wherein the text information entry area is activated in response to manipulation of the switch.<sup>2</sup>

The prior art references of record relied upon by the Examiner in rejecting the appealed claims are:

Cooper	US 5,006,836	Apr. 9, 1991
Danielson	US 5,805,474	Sep. 8, 1998
Henry	US 5,881,169	Mar. 9, 1999

---

<sup>2</sup> We observe that the recitation of "a pressure sensitive switch" in the second and fifth lines of the claim is confusing since it implies the presence of more than one pressure sensitive switch and is unclear as to which switch is to be manipulated in order to activate the text entry area.

Appeal 2007-4293  
Application 10/054,684

Claims 1-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Henry in view of Cooper and Danielson.

We make reference to the Briefs (Appeal Brief filed Jan. 23, 2006 and Reply Brief filed Jul. 31, 2006) and the Answer (mailed May 31, 2006) for their respective details. Only those arguments actually made by Appellant have been considered in this decision. Arguments which Appellant did not make in the Briefs have not been considered and are deemed waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

## ISSUE

The issue is whether Appellant has shown that the Examiner erred in rejecting the claims under 35 U.S.C. § 103. The issue on appeal turns on whether substantial evidence before us shows that under 35 U.S.C. § 103, the combination of Henry, Cooper, and Danielson teaches or suggests the claimed subject matter. Specifically, Appellant and the Examiner disagree as to whether Cooper and Danielson disclose or suggest using a pressure sensitive switch as taught by Cooper and in the manner suggested by Danielson as a pressure sensitive toggle switch in the handheld device of Henry.

## FINDINGS OF FACT

The following findings of fact (FF) are relevant to the issue involved in the appeal.

*Cooper*

1. Cooper relates to a pressure operated switch, installed in a control mouse, so as to be switched between a first state and a second state by squeezing force. (Abstract).

2. As depicted in Figure 3, Cooper provides pressure operated switches 21 and 22 positioned near opposed edges of base 17. (Col. 1, ll. 60-67).

3. Cooper discloses outward facing portions 30 and 31 in opposed positions on vertical wall 29 on the side of cover 18, such that the portions can receive a squeezing force applied by two digits of an operator. The wall 29 is resiliently flexible so that when it is squeezed between portions 30 and 31, it moves inward and presses against operating mechanisms 26 and 27 of switches 21 and 22. (Col. 2, ll. 3-11).

4. Cooper describes the operation of the squeezable switches 21 and 22 in two states: 1) squeezing with a force higher than a predetermined threshold forces the wall 29 to flex inward which throws composite switch 21-22 from its first state (open) to its second state (closed) (col. 2, ll. 32-38) and 2) relaxing the squeezing force below the predetermined threshold forces the wall 29 back to its original shape such that the switches are opened. (Col. 2, ll. 46-51).

5. Cooper indicates that the signals generated by the squeezing and unsqueezing of the switches can be used for any purpose by the computer. (Col. 2, ll. 59-61).

*Danielson*

6. Danielson relates to a portable data collection terminal including an accessory pod disposed on the housing of the terminal. The

accessory pod has one or two activation, diaphragm-type switches disposed in a pod wall disposed transversely to the handgrip extension. (Abstract).

7. As shown in Figure 29, Danielson describes that the accessory pod 30 includes a pod wall 471 having at least one activation switch 472 that is adapted to activate a device contained in the accessory pod 30, such as scanner 29. (Col. 25, ll. 40-43).

8. Switch 472 is disposed near an end 473 of the pod wall 471 such that a user gripping the handgrip portion 470 can curl a thumb or finger into position to depress the switch 472. Preferably, the switch 472 comprises a diaphragm-type switch. The scanner 29 can be activated by simply depressing and holding the switch 472 while using the scanner 29 and then releasing the switch 472 to deactivate the scanner 29 upon completion of the desired task. (Col. 25, ll. 44-53).

9. Alternatively, the switch 472 may be of the type whereby the switch 472 is depressed and released to activate the scanner 29 and then depressed and released a second time to deactivate the scanner 29. (Col. 25, ll. 54-57).

#### PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966) (stating that 35 U.S.C. § 103 leads to three basic factual inquiries: the scope and content of the prior art, the differences between the prior art and the claims at issue, and the

level of ordinary skill in the art). “[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

“[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). “[T]here must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (citing *In re Lee*, 277 F.3d 1338, 1343-46 (Fed. Cir. 2002); *In re Rouffet*, 149 F.3d 1350, 1355-59 (Fed. Cir. 1998)).

Furthermore, the test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. See *In re Kahn*, 441 F.3d at 987-88, *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991), and *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

Section 103 forbids issuance of a patent when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.”

*KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Leapfrog Enter., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir.

2007) (quoting *KSR*, 127 S. Ct. at 1739). “One of the ways in which a patent’s subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent’s claims.” *KSR*, 127 S. Ct. at 1742.

The *KSR* Court further recognized that “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.” *KSR*, 127 S. Ct. at 1742. In such circumstances, “the fact that a combination was obvious to try might show that it was obvious under § 103.” *Id.*

## ANALYSIS

With respect to claim 1, the Examiner’s reading of the handheld device having a user interface and a display supported by the housing on the portable computing device disclosed by Henry (Ans. 3-4) appears to remain undisputed by Appellant (App. Br. 8-9). The Examiner asserts (Ans. 4) that Henry discloses all of the elements of claim 1, except for a pressure sensitive switch coupled to a deformable side of the housing that is toggled when the deformable side is deformed, for which the Examiner relies on Cooper and Danielson (Ans. 4-6). The Examiner further concludes that using the pressure operated switch of Cooper in the toggling mode of Danielson in combination with Henry provides a more user-friendly input device which benefits from a simpler press and release toggle switch (Ans. 6).

Appellant does not argue any of the teachings of Henry relied on by the Examiner and mainly asserts that the applied art fails to provide a suggestion or motivation for integrating the “squeeze and unsqueeze”

features in Cooper and the toggle switch of Danielson in Henry's handheld computer (App. Br. 9-12). Appellant specifically argues that the switches disclosed in Cooper are used to facilitate the moving and manipulation of the mouse control and would not operate properly if modified to work as toggle switches (App. Br. 11).

The Examiner argues that the collective teachings of the references would have suggested the combination to one of ordinary skill in the art (Ans. 8). The Examiner also points out that the operation of Cooper would not be affected by the combination since the toggle switches disclosed by Danielson would be incorporated in the handheld device of Henry as modified by Cooper (*id.*). The Examiner further asserts that the modification is consistent with Appellant's disclosure on page 8 of the Specification, stating that different types of switches, such as a pressure activated switch, may be used for activating and deactivating the text entry area (Ans. 8-9). By relying on Danielson to show that toggle switches are commonly used for input devices, the Examiner concludes that changing between the two states by Cooper's depressible switch is similar to and could be achieved by a toggle switch (Ans. 9).

Based on our review of the references, we disagree with Appellant that one of ordinary skill would not have incorporated the pressure sensitive switch of Cooper as modified by Danielson's toggle switch in Henry's handheld computing device. Cooper discloses pressure operated switches positioned near opposite edges of the housing in a control mouse (FF 1-2). While Cooper discusses squeeze and hold or relaxing the squeezing force for operating the switch, the reference clearly teaches that applying pressure does switch the pressure operated switch between two states, i.e., open and

closed (FF 3-4), to generate a signal that may be applied to any function by the computer (FF 5). As such Cooper recognizes the benefits of a simple squeeze and release switch for easier control (FF 4). Danielson, on the other hand, discloses that a depressible switch may either be the type that is depressed and held to switch to one state and then is released to switch to the other state, or be the type that is depressed and released each time it is to be switched from one state to the other (FF 6-9).

Contrary to Appellant's argument (Reply Br. 3) that the Examiner relied on Appellant's own disclosure for providing the motivation to combine the references, we observe that, consistent with the principles outlined in the *KSR* and *Leapfrog* holdings, one of ordinary skill in the art would have used a known solution, such as a toggle switch, for the recognized problem of easily switching between features in the handheld device disclosed by Henry. Similarly, we find that using Cooper's squeezable switches positioned on the side of the flexible cover in the handheld device of Henry, such that squeezing the cover operates the switching mechanism, is no more than the predictable use of a known element according to its established function of providing an easy-to-hold device with an easy-to-use switching feature.

Additionally, while we agree with Appellant's argument (Reply Br. 5) that the list of various switching mechanisms in Appellant's Specification may not be relied on for supporting the combination, Danielson's teachings are consistent with Appellant's discussed suitability of using any of the different switches for switching between different states or functionalities. In that regard, as articulated in the *KSR* decision, one of ordinary skill in the art faced with the design need for switching between closed and open states

would have selected among known available types of switches, such as the toggle switch of Danielson, since it is among the finite number of identified, predictable solutions and the “person of ordinary skill has good reason to pursue the known options within his or her technical grasp.” *KSR*, 127 S. Ct. at 1742. Therefore, we do not find error in the Examiner’s position with respect to the combination of the applied references and sustain the 35 U.S.C. § 103(a) rejection of claim 1, as well as claims 2-7 which are argued together with claim 1 over Henry, Cooper, and Danielson.

Regarding claims 8-17, Appellant relies (App. Br. 12-16) on the same arguments presented for claim 1, which we found to be unpersuasive. In view of our analysis above, we find that the teachings of Henry, Cooper, and Danielson, when considered as a whole, support the Examiner’s 35 U.S.C. § 103 ground of rejection. Thus, we sustain the 35 U.S.C. § 103(a) rejection of independent claim 8, as well as claims 9-17 argued together with their base claim, over the teachings of Henry, Cooper, and Danielson.

Regarding claims 18-22, Appellant substantially repeats the same arguments presented with respect to claim 1 and further asserts (App. Br. 18-19) that the applied art does not teach or suggest that the deformable side of the handheld device is opposite a non-deformable side, as recited in claim 18. The Examiner takes the same position outlined above with respect to claim 1 and asserts that making one side deformable would have been obvious and determined by cost and design (Ans. 7).

Based on the scope of claim 18, our review of the applied prior art, and the analysis made above regarding the rejection of claim 1, we find the Examiner’s position to be reasonable. We observe that while claim 18 does not recite a toggle switch, the claimed activation by applying pressure and

Appeal 2007-4293  
Application 10/054,684

deactivation by releasing pressure is taught by Danielson (FF 8). As such, according to the *KSR* holding, placing one switch on the deformable side opposite to a non-deformable side would have been obvious as one of the finite and predictable solutions available to one of ordinary skill in the art. Therefore, for the same reasons discussed above with respect to claim 1, we also sustain the 35 U.S.C. § 103(a) rejection of claim 18, as well as claims 19-22 which are argued together with claim 18, over Henry, Cooper, and Danielson.

## CONCLUSION

Because Appellant has failed to point to any error in the Examiner's position that one of ordinary skill in the art would have used a pressure sensitive switch as taught by Cooper and in the manner suggested by Danielson as a pressure sensitive toggle switch in the handheld device of Henry, we sustain the 35 U.S.C. § 103 rejections of claims 1-22.

## ORDER

The decision of the Examiner rejecting claims 1-22 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. 1.136(a)(1)(iv).

AFFIRMED

Appeal 2007-4293  
Application 10/054,684

babc

FOLEY & LARDNER LLP  
777 EAST WISCONSIN AVENUE  
MILWAUKEE, WI 53202-5306